

TOKEN-CONTROLLED DATA TRANSMISSIONS
IN COMMUNICATION NETWORKS

ABSTRACT OF THE DISCLOSURE

A network includes multiple nodes interconnected to form a ring topology. These nodes support data transmissions over the network using tokens. To send and receive data over the network, nodes may process control messages. A node can receive a token authorizing transmission on one of multiple data channels, determine a transmission allocation, which represents an amount of time that the authorized data channel may be utilized to transmit data, and determine a destination allocation, which represents a proportion of the transmission allocation that may be utilized to transmit the data to a particular destination. The node can also transmit the data on the authorized data channel in accordance with the transmission allocation and the destination allocation.